

Special attention must also be paid to the 1996 Act's express inclusion of "information sufficient for billing and collection or used in the transmission, routing, or other provision of a telecommunications service" in the definition of "network elements."¹⁰⁵ ACSI submits that the Commission should clarify that this language requires ILECs to make generally available to co-carriers billing information, subscriber numbers, subscriber names and addresses, billing and collection services, and all subscriber number information needed for the provision of directory assistance and call completion service using the CLEC's own operators.

Access to the AIN databases is especially important to the future development of effective local competition. The Information Industry Liaison Committee ("IILC") has been working to identify both the AIN building blocks and the appropriate interface points. The report of the IILC Issue #026 Task Force on Long-Term Unbundling (adopted April 1995) specifically envisions interconnection of co-carriers to discrete elements of the ILEC AIN databases. It is evident that at least two interconnection points to the ILEC AIN databases are available immediately -- *i.e.*, the LEC Service Switching Point ("SSP") to the CLEC Service Control Point ("SCP") and the CLEC SSP trigger control at the LEC switch -- and the FCC should order ILECs to make this interconnection available immediately. Additional interconnection points should be offered as they are shown to be technically feasible. Finally, ILECs should not be allowed to require that CLEC access to SMS be mediated, unless the ILECs are willing to interconnect with the SMS on a similarly mediated basis.

¹⁰⁵ 47 U.S.C. § 153(45).

b. Signaling

The ILECs' SS7 networks are essential to call set up, access to remote databases and the provision of custom local area signaling service ("CLASS") features.¹⁰⁶ The seamless interconnection of CLEC signaling systems to the ILEC SS7 network (as well as future iterations thereof) is fundamental to efficient call processing as well as to access to databases. ACSI proposes that the Commission require ILECs to provide unbundled access to all signaling links, signal transfer points ("STPs") and SCPs at rates set at the TSLRIC of providing such services. Each of these physical components should be offered separately from each other, as well as separately from the various databases and logical elements to which they connect.

c. General Requirements (§§ 89-91)

The technical standards applicable to many of the network elements referenced herein are fairly well-established by Bellcore bulletins, industry committee special reports, equipment manufacturer manuals and the like. While ACSI does not recommend that the FCC incorporate such documents into its regulations, both because of their length and the fact that they are constantly being revised, it would be insufficient simply to require that elements be made available, and then to remain completely silent on the terms and conditions which apply to them. ACSI suggests that the Commission adopt a list of minimum general terms and conditions which the ILECs must satisfy when providing unbundled elements to co-carriers.

¹⁰⁶ See Notice ¶ 108.

Without explicit standards, the ILECs are likely to abuse their position by using delay, obfuscation, nonreciprocal conditions, technical inequivalency, and the like to provide co-carriers with network elements on substandard terms. Indeed, the RBOCs themselves are keenly aware of the likelihood of anticompetitive conduct and have argued strenuously overseas that government intervention is required to prevent abuses of market power in similar situations. BellSouth, for example, has observed that: "[c]ompetitors are disadvantaged if they cannot order and obtain leased lines, circuit rearrangements, and enhanced services on reliable commercial schedules that are equivalent to the service [an incumbent] provides to its own departments or subsidiaries. Experience in the liberalized markets (U.S., U.K.) suggests that regulators need to establish a requirement for equal provisioning and to monitor [the incumbent's] performance to ensure equal access."¹⁰⁷ Elsewhere BellSouth explained that terms of access are vital to the emergence of competition because "[t]he terms and conditions for interconnection, and the price of those complementary network services, determine which firms capture what rents, and how."¹⁰⁸ But US West put it most succinctly: "[I]t is . . . in the dominant operator's self-interest to make interconnection as difficult and expensive as possible."¹⁰⁹ The solution is to explicitly require that interconnection be subject to at least the same technical standards

¹⁰⁷ See BellSouth Europe's submission to the European Commission's Green Paper filed March 15, 1995, at 6.

¹⁰⁸ See also BellSouth New Zealand's "Regulation of Access to Vertically-Integrated Natural Monopolies, a Discussion Paper," dated September 1995, at 9-10.

¹⁰⁹ US West International's response to OFTEL's consultative document at 8.

which ILECs afford each other now, as well as future interconnection standards, including all industry norms.¹¹⁰

Specifically, ACSI requests that the Commission adopt regulations requiring that ILECs provided CLECs with access to elements that are equal in features, operations, interfaces, redundancies and quality to those that ILECs provide to themselves. Moreover, these elements should conform to all Bellcore and ANSI requirements applicable to the type of service or functionality involved, as well as relevant industry Committee guidelines and manufacturer specifications.

Standards for ordering and provisioning are equally important. ILECs should be obligated to create systems that enable co-carriers to "bond" electronically with all relevant ILEC ordering, provisioning, installation, support and repair systems. This includes the development of real-time automated interfaces for pre-service ordering, service order provisioning and service order confirmation and status checks. As a natural adjunct, automated read and write access to the ILEC maintenance and trouble report system should be mandatory.

Requirements to ensure nondiscriminatory account maintenance interaction need also to be crafted. ACSI believes that ILECs should be required to (1) list CLEC customers in their DA databases free-of-charge, (2) provide CLEC customers free white pages listings and nondiscriminatory access to yellow pages directories, (3) provide CLECs free access to directory guide and information pages, and (4) provide unbranded DA and operator services

¹¹⁰ ALTS Handbook, p. 12.

upon request at prices set at TSLRIC cost. Similarly, mutual procedures for competitively neutral local PIC processing should be mandatory.

Finally, enforcement procedures applicable to such requirements need to be clarified. Simply put, ILECs should not be able to use delay and expense to deter interconnectors from claiming their statutory rights. Once again, ACSI requests that the FCC make clear that redress for violations may be had through the Commission's Section 208 formal complaint process.

D. CLECs Should Be Free to Use Unbundled Network Elements to Provide Any Service.

The 1996 Act provides that the ILECs must make elements of their networks available on an unbundled basis "to any requesting telecommunications carrier for the provision of a telecommunications service."¹¹¹ ACSI submits that this provision must be interpreted as broadly as it is stated: unbundled network elements should be available to carriers to provide *any* telecommunications service.¹¹² This is reinforced by Section 251(d)(2)(B), which, in discussing the standard for assessing which network elements should be made available, refers in open-ended manner to the impairment of the requesting carrier's ability to "provide the services that it seeks to offer."¹¹³ Thus, CLECs must be able to use unbundled network elements to provide any local retail service, access service or intraLATA toll

¹¹¹ 47 U.S.C. § 251(c)(3).

¹¹² Under the Act, the offering to the public for a fee of a service providing for the "transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received." 47 U.S.C. § 153(48); *see also id.* § 153(51).

¹¹³ 47 U.S.C. § 251(d)(2)(B). Moreover, where the Congress wished to give regulators the ability to restrict the services a requesting carrier wants to offer, it was explicit. *See, e.g.,* 47 U.S.C. § 251(c)(4) (resale of retail services may be restricted).

service. If this is not made clear in the FCC's implementing rules, ACSI submits that ILECs are likely to try to control or limit competition by placing artificial restrictions on the types of services that unbundled network elements may support.

E. Unbundled Network Elements Must Be Provided to All LECs on Nondiscriminatory Terms.

The 1996 Act makes clear that access to unbundled network elements must be available on terms and conditions that are just, reasonable, and nondiscriminatory.¹¹⁴ The standards that the FCC adopts must clearly provide that interconnection to any unbundled network element that an ILEC provides "to itself or to any subsidiary, affiliate, or any other party to which the [ILEC] provides interconnection," must be available to every other telecommunications carrier in "at least equal . . . quality."¹¹⁵ ACSI submits that this language does not allow for the sort of differential treatment described in the *Notice*,¹¹⁶ and wholeheartedly supports the FCC's tentative conclusion that "the statute appears to preclude such differential treatment among carriers."¹¹⁷

Any doubt in this regard is removed by Section 251(i), which unequivocally provides that an ILEC "shall make available *any* . . . network element provided under an agreement approved under [Section 252] to which it is a party to *any* other requesting telecommunications carrier upon the same terms and conditions as those provided in the

¹¹⁴ 47 U.S.C. § 251(c)(3).

¹¹⁵ 47 U.S.C. § 251(c)(2)(C).

¹¹⁶ See *Notice* ¶¶ 270-271.

¹¹⁷ *Notice* ¶ 270.

agreement."¹¹⁸ The unbridled clarity of this language preempts any attempt to condition availability of network elements on the same terms and conditions upon a finding that the requesting carrier is "similarly situated."¹¹⁹ Moreover, the language of the statute unequivocally allows the separation of interconnection arrangements down to the "level of the individual provisions of subsections (b) and (c) and the individual paragraphs of Section 251."¹²⁰ If it were otherwise, the Congress would have made the language of the 1996 Act say so by making the agreement *in toto* available to any requesting carrier. Instead, it says "any interconnection, service, or network element" shall be available.¹²¹

The availability of *any* individual interconnection, service, or network element at the same price and on the same terms and conditions in an approved interconnection agreement is an utterly critical competitive safeguard as it will prevent both collusion and discrimination. The price, terms, and conditions under which each interconnection, service, or network element in an agreement is offered should be justified on their own merits. This is appropriate, as Section 252(d)(1) requires each interconnection, service, and network element to be cost-justified.

If only the agreement as a whole is made available on a nondiscriminatory basis, rather than specific network elements, the Commission will stifle the emergence of local competition and essentially have written the nondiscrimination provisions out of Sections 251 and 252, since every new entrant will have different requirements depending upon the

¹¹⁸ 47 U.S.C. § 252(i) (emphasis added).

¹¹⁹ See Notice ¶ 270.

¹²⁰ See *id.* § 271.

¹²¹ 47 U.S.C. § 252(i).

services or combinations of services it wishes to provide. Further, the notion that a carrier must take a "package deal" is completely antithetical to the spirit of the unbundling provisions of the 1996 Act. Finally, in response to the FCC's inquiry as to how long interconnection, service, and network elements from an approved agreement must be available to other carriers,¹²² ACSI submits that the statute's silence indicates that availability should extend for the duration of the agreement.

**F. Cost-Based Pricing of Unbundled Elements Is Essential
(¶¶ 121-143).**

1. National Pricing Rules Are Necessary.

In its *Notice*, the Commission rightly observed that the pro-competitive purposes of the Act can be achieved only if CLECs are able to obtain ILEC interconnection and network elements at "reasonable, cost-based prices."¹²³ There may be no more critical issue to be addressed in this proceeding. The availability of interconnection and network elements is meaningless if they are priced so high as to make their use uneconomic, or to provide ILECs with an inherent cost advantage over their local service competitors.

The incentives for ILECs to overprice both interconnection and unbundled elements is clear -- they can obtain an inherent cost advantage over the competition. In addition, since interconnection negotiations under the 1996 Act are undeniably one-sided, CLECs have no significant bargaining power to extract pricing concessions. The problem is further compounded by the unfortunate fact that the ILECs are the sole repository of virtually all data concerning the cost of services requested, and information regarding how proposed

¹²² *Notice* ¶ 272.

¹²³ *Notice* at ¶ 75.

prices were calculated. Even the prices offered to other interconnectors are known only to the ILECs at this time. This is a deadly combination of circumstances which must be addressed through explicit national pricing rules.

ACSI has experienced this dilemma first hand in recent months. In ACSI's experience, most ILECs are pursuing a negotiating strategy with respect to unbundled network elements of "taking away with one hand what they gave with the other." Often, an ILEC offers to make a network element available, but later produces prices which render its use uneconomic. Local loop pricing provides the best example. Some ILECs are pricing local loops at \$25 or more per month -- sometimes exceeding the retail price charged by the ILEC for its integrated, retail full-service local service products. Clearly, such prices are not based upon cost, and ILECs propose them knowing that they make unbundled local loops unavailable *as a practical matter*. The FCC must stop this abusive behavior now, by making clear that prices for unbundled network elements must be set at TSLRIC or below a proxy-based price ceiling.

Finally, it is imperative that the FCC not leave all pricing issues to state regulators to resolve. While some state regulators -- the Washington UTC, for instance -- have taken a tough and commendable stand with respect to ILEC pricing, others already have shown that they lack the stomach to enforce the 1996 Act's cost-based pricing requirements. The Texas PUC, for example, has permitted loop pricing which exceeds the TSLRIC costs estimated in the Hatfield Study by approximately 200 percent.¹²⁴ And New York state regulators have

¹²⁴ See *Applications of SWBT, GTE and Contel for Usage Sensitive Loop Resale Tariffs*, Texas PUC Docket No. 14659, Order of Remand (adopted March 27, 1996), at 14-16 (adopting interim loop rates ranging from \$15.14 to \$24.21 per month).

publicly expressed extreme reluctance to force ILECs within their jurisdiction to reduce prices toward cost.¹²⁵ The political reality is that many state regulators lack the will, resources, or both, to enforce the 1996 Act's cost-based pricing requirement. Only mandatory national pricing standards will empower CLECs to obtain just and reasonable prices in such areas of the nation. As importantly, national guidelines will expedite ongoing negotiations by ending the face-off between ILECs and CLECs over the methodology to be employed in setting rates.

2. The FCC Is Authorized to Adopt National Pricing Guidelines.

As the Commission notes, Section 251 explicitly requires just, reasonable and nondiscriminatory rates for ILEC services, interconnection, and unbundled elements.¹²⁶ The Commission is instructed to establish regulations that implement the requirements of Section 251.¹²⁷ Because just, reasonable and nondiscriminatory rate levels are a critical part of the ILECs' obligations for which the Commission must adopt implementing regulations, Section 251, by logical extension, grants the FCC the authority to establish pricing principles to ensure the ILECs meet these obligations.

ACSI agrees with the Commission's tentative conclusion that it should set pricing principles without regard to jurisdictional distinctions between interstate and intrastate rates.¹²⁸ The Commission should establish pricing principles that apply to the pricing of

¹²⁵ See *Communications Today*, April 22, 1996, "Universal Service Comments Renew Decade Old SLC, CCLC Debates, (New York PSC Vice Chairman urges delayed move toward cost-based pricing to ameliorate local rate impacts).

¹²⁶ Notice ¶ 117; see 47 U.S.C. §§ 251(c)(2); 251(c)(3); 251(c)(6).

¹²⁷ 47 U.S.C. § 251(d).

¹²⁸ Notice ¶ 120.

unbundled elements regardless of whether the use would be interstate or intrastate. Neither Part 64 nor a jurisdictional allocation process should apply. Nothing in Sections 251 or 252 distinguishes between an ILEC's interstate and intrastate services or limits the Commission's authority to interstate rates. Congress' silence indicates that the ILECs' obligations are not divided along jurisdictional borders.

3. The Commission Should Require Network Elements to Be Priced Using a TSLRIC Methodology.

It is well-settled in economic theory that competitive markets drive prices toward the LRIC of providing the service. The goal of rate regulation in telecommunications is to mirror, as closely as possible, the outcome that would be achieved by a competitive market. To achieve this goal, the Commission should require ILECs to price network elements at the TSLRIC of making the element available.

As noted before, Section 251 requires ILEC rates for unbundled network elements to be just, reasonable and nondiscriminatory. Although Section 251 does not further define what is a just, reasonable and nondiscriminatory rate, Section 252(d)'s instruction to the states provides useful guidance. There, Congress specifically required that ILEC rates under Section 251 be "*based on the cost*" determined "*without reference to a rate-of-return or other rate-based proceeding.*"¹²⁹ Since pricing must be based on cost, it is evident that Congress envisioned use of an incremental costing methodology. This interpretation reinforced by the fact that use of "rate-of-return" and "rate-base" methodologies are expressly rejected, thereby disqualifying use of jurisdictional separations, embedded costs, fully distributed costs, and other traditional utility costing mechanisms. TSLRIC-based pricing meets both of the

¹²⁹ 47 U.S.C. § 252(d)(1) (emphasis added).

statutory requirements. It is not dependent upon the ILECs' historical rate of return, and it does not follow traditional rate of return principles. Rather, the TSLRIC methodology uses true economic costs to calculate rates, thereby mirroring the "cost-based" rates that would result in a truly competitive market.

As importantly, use of a LRIC-based methodology is needed to protect competitors from being caught in a classic "cost-price squeeze." If an ILEC can price a necessary input above its LRIC, its competitors must price their services to recover these costs, plus a reasonable profit. The ILEC, however, can lower its retail price to the price established for the input (or below this price, if imputation safeguards are not present) and still make a profit. If a competitor matches this price, it earns no profit, while the ILEC earns a profit equal to the amount by which the price of the input exceeds its incremental cost. Obviously, non-LRIC based pricing gives the incumbent a powerful advantage over its competitors, even where those competitors are more efficient than the ILEC.

Therefore, ACSI urges the FCC to follow the lead of such forward-looking states as Illinois, Michigan, and California and adopt a TSLRIC-based pricing standard. Under a TSLRIC approach, the price of a network element should be equal to the total additional cost incurred by a telecommunications services provider to produce the entire quantity of a service, group of services, or basic network functions, given that the telecommunications services provider already provides all its other services. TSLRIC should be determined based on the least cost, most efficient technology that is capable of being implemented at the time the decision to provide the service is made.

Admittedly, ILEC-by-ILEC study of TSLRIC costs could be a daunting undertaking. Fortunately, it is not necessary for the Commission to develop individual TSLRIC costs for

each ILEC. ACSI suggests that the Commission establish a standard which is based upon a nationally-averaged TSLRIC proxy which could be used as a "safe harbor" by those ILECs which prefer not to conduct service specific TSLRIC cost studies. Rates below the proxy price ceiling would be presumed lawful, while ILECs seeking to set prices above the ceiling would be obligated to prove the reasonableness of rates with specific TSLRIC cost studies -- and bear a heavy burden of demonstrating that the cost studies were properly performed and utilized.

This approach has several important advantages. Obviously, a single TSLRIC study is more administratively manageable. In addition, use of a nationally-averaged proxy does not reward less-efficient ILECs, and reduces an ILEC's incentive to inflate its costs for purposes of the study. It also reduces the advantage an ILEC can gain by restricting access to its cost data, as other entities' costs will be used instead. Several useful proxies have already been developed, including the Benchmark Cost Model developed jointly by US West, NYNEX, MCI and Sprint, and the Hatfield Associates' March 1996 study.¹³⁰

As an added protection to remove the incentives for ILECs to manipulate their retail rates and/or their costs under such a cost standard, ACSI suggests that the Commission require ILECs to impute their unbundled element charges in their retail rates. An imputation requirement will prevent the ILECs from pricing retail services artificially low in order to deter entry. It also will effectively act as a ceiling on the pricing of unbundled network elements. That is, under an imputation standard, the maximum charge for a group of

¹³⁰ *Benchmark Cost Model: A Joint Submission by MCI Communications, Inc., NYNEX Corporation, Sprint Corporation and US West, Inc.* (December 1, 1995); *The Cost of Basic Network Elements: Theory, Modeling and Policy Implications*, Hatfield Associates, Inc. (March 1996).

unbundled network elements used in a service will be equal to the ILEC's retail rate for that service. While this standard is in no sense a substitute for TSLRIC pricing, it can be an effective complementary tool to such pricing to deter the most blatant forms of non-TSLRIC price manipulation.

4. Non-TSLRIC Cost Methodologies Are Inconsistent with the Act.

The other cost methodologies discussed in the *Notice* do not meet the 1996 Act's requirement of cost-based rates. First, the 1996 Act expressly prohibits the use of traditional rate base costs to establish prices.¹³¹ Despite this, several ILECs have unabashedly proposed non-cost based pricing for reciprocal compensation and for access to unbundled network elements.¹³² Similarly, some states have adopted non-cost based methodologies or methodologies which allow the ILEC to recover for "lost contribution" or "stranded plant."¹³³ The Commission should explicitly preclude such pricing.

Second, the Commission should reject pricing based upon the ILEC's historical or embedded costs. Embedded cost pricing is not reasonable because it in effect guarantees recovery for uneconomic decisions made by the ILECs. Price regulation in regulated markets should emulate the pricing that would result from a competitive market. In a competitive market, a firm must price its services based upon its forward-looking costs, not its historical costs. In short, a competitive market forces entities that have outdated technology or have high embedded costs to become more efficient or suffer the competitive

¹³¹ 47 U.S.C. § 252(d)(1).

¹³² See pp. 27-30, *supra*.

¹³³ See NPRM ¶ 127 (describing rates approved by the New York Public Service Commission).

consequences. The Commission should not shield ILECs from these same pressures -- especially at the expense of their direct competitors.

Third, the Commission should reject rates based upon so-called "efficient component pricing." As the Commission notes, this approach "does not drive prices toward competitive levels."¹³⁴ Instead, it preserves an ILEC's monopoly price advantage by allowing it to build "opportunity costs" into the rate. The Commission therefore has correctly concluded that "efficient component pricing" is inconsistent with Section 252(d)(1).¹³⁵

Finally, the Commission should reject the use of surrogates for ILEC interconnection rates. Interconnection or unbundling rates negotiated with CLECs prior to the 1996 Act are not helpful because they were negotiated in a vastly different legal environment and between parties with widely divergent bargaining power. Therefore, these rates do not establish a relevant benchmark for interconnection and network element rates under the Act.¹³⁶ ILEC charges for exchange access services also is an inappropriate surrogate because these charges were not determined based upon the costs of providing the service (much less based on its forward-looking costs).

In summary, only a TSLRIC-based methodology meets the Act's requirement of cost-based rates. Other approaches rely on non-cost factors, which have no permissible purpose

¹³⁴ Notice ¶ 147.

¹³⁵ Notice ¶ 148.

¹³⁶ Of course, previous agreements may be relevant in assessing whether an ILEC is discriminating against a carrier or class of carriers.

in setting ILEC rates for interconnection. Therefore, the Commission should require ILEC to base rates on their TSLRIC costs.¹³⁷

V. RESALE (Section II.B.3, ¶¶ 172-188)

The 1996 Act explicitly requires that ILECs, as opposed to LECs as a whole, offer "any telecommunications service that the [ILEC] provides at retail to subscribers" other than telecommunications carriers, at wholesale rates for the purpose of resale by a competitor.¹³⁸ Accordingly, unless the 1996 Act expressly provides otherwise, the FCC rules should provide that all ILEC services, apart from lifeline services, must be offered for resale. In fact, ACSI's experience since the passage of the 1996 Act underscores the need, despite the explicit nature of the statutory language, to emphasize the ILECs' obligation to offer *all* retail services at wholesale rates. For example, in apparent response to requests to resell Centrex service, US West has sought to remove the service from its state tariffs across

¹³⁷ ACSI anticipates that some ILECs will argue that unbundling will require them to make certain one-time expenditures to reconfigure their networks or to modify billing systems in order to make their networks open in the manner contemplated by Section 251. To the extent that the costs of such a reconfiguration are not required to be borne by the ILECs and their shareholders, ACSI urges the Commission to ensure all local service customers contribute equally to the recovery of these costs. Specifically, the Commission should declare that ILECs may not charge only new entrants for these costs, nor may they build this cost recovery into their rates for unbundled elements. All users will enjoy tangible benefits from the openness that Section 251 mandates. Local service customers, whether they receive service from an incumbent or a CLEC, receive the ability to reach any telephone users regardless of the calling party's local service provider. In addition, all customers, even those who retain their present local service provider, will benefit from increased competition in the form of lower prices, better service, and product innovations. Recovery of any costs associated with bringing these benefits about should be supplied by those receiving its benefits: *all* local service customers.

¹³⁸ 47 U.S.C. § 251(c)(4).

its region. Worse yet, US West has grandfathered existing Centrex customers, but refuses to allow the service to be resold to these remaining customers. Activities such as these -- withdrawing long-offered services to thwart resale competition -- clearly violate Section 251(c)(4). Moreover, in the circumstances discussed above, it should be *per se* discriminatory to continue to offer a withdrawn service to existing customers.¹³⁹

Similarly, US West has informed ACSI that it will not offer residential or flat-rated services at wholesale rates for resale. Clearly, a fundamental service such as basic local exchange service must be available for resale on a reasonable basis if local competition is to develop. Other ILECs have refused to allow resale of promotional offerings. But the language of the 1996 Act is plain -- all retail services except lifeline products must be available for resale at wholesale rates. This includes discounts and promotional offerings. Otherwise, a LEC will always be able to undercut the potential resale competition.

To the extent reasonable conditions or limitations may be placed on resale,¹⁴⁰ ACSI concurs with the FCC's view that this statutory exception must be construed very narrowly.¹⁴¹ Concomitantly, consistent with the pro-competitive objectives of the 1996 Act to open the local marketplace, the ILECs must have the burden of demonstrating the reasonableness of any restrictions or conditions on resale.

¹³⁹ It is not relevant whether there is an alternative way for the new competitor to provide the service. The statute provides for the resale of retail services, plain and simple, and has no "out" if the retail service can be provided by remarketing another service or combining yet other services, albeit these options should also be available to new competitors.

¹⁴⁰ 47 U.S.C. § 251(c)(4)(B).

¹⁴¹ Notice ¶ 175.

Finally, ACSI agrees that the FCC should develop regulatory guidelines for the states to use in developing wholesale rates consistent with the statute's standards.¹⁴² As with interconnection regulations generally, if wholesale rates are developed in a consistent manner based on federal direction, state action will be facilitated in establishing actual wholesale rates and new entrants will be better able to formulate and execute regional and national business plans.

Consistent with the establishment of uniform guidelines, ACSI believes that the FCC should identify those costs, perhaps with reference to the cost accounts in the Uniform System of Accounts,¹⁴³ that are avoided through the provision of a wholesale service. The FCC's rules should also make plain that only *avoided* costs are to be considered in establishing wholesale rates. While the 1996 Act does not identify what costs will be avoided, it leaves no room for interpretation -- wholesale rates equal retail rates *minus* avoided costs.¹⁴⁴ Thus, for example, ILECs should not be required or allowed to add back into wholesale rates "costs" incurred as a result of providing retail service, nor should they be required to reduce retail rates more than that which is required to back out the avoided costs.

¹⁴² See 47 U.S.C. § 252(d)(3).

¹⁴³ See Notice ¶ 181.

¹⁴⁴ 47 U.S.C. § 252(d)(3).


VI. CONCLUSION

Without a doubt, Sections 251 and 252 of the 1996 Act represent a watershed in the telecommunications industry. By this momentous legislation, the Congress sought to transfigure a market characterized by monopoly service providers since the telephone was invented. To ensure that these provisions succeed in bringing about competition expeditiously, the Commission should adopt straightforward national standards. These rules should guide the State commissions in fulfilling their important roles, and forewarn the parties of their responsibilities and the ILECs of their burdens of proving exceptions to statutory requirements. In large part, the 1996 Act is clear on its face what must be done. The rules should amplify this clarity. In so doing, the FCC will help usher in a new competitive age in local *and* long distance services, of which the development of long distance competition was merely the faintest foretaste.

Respectfully submitted,

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**DESCRIPTION OF
UNBUNDLED NETWORK ELEMENTS
REQUESTED BY ACSI**

- I. NETWORK ACCESS**—accommodates access to other network functions provided by LECs. This access is accomplished by transmission paths between customer locations and LEC switching centers (switching offices), or any other points of interconnection to the LEC network that may develop in the future.
- A. Network Access Channel (NAC)**—The transmission path between the minimum point of presence at a customer location and the main distribution frame or equivalent (*i.e.*, DS-1, DS-3) of a LEC serving wire center (switching office), or any other point of interconnection to the LEC network that may develop in the future.
1. The NAC can be broken into at least three components:
 - a. **Loop Distribution**—The transmission path between the Minimum Point of Presence (MPOP) (or demarcation point) at the customer location and the Subscriber Line Carrier (SLC) pedestal, Serving Area Interface (SAI) or similar Remote Terminal (RT) interface. RT includes a wide variety of equipment commonly used at or near the customer premise, including, without limitation, channel banks, remote concentrators, subscriber loop concentrators (SLCs), digital loop carrier systems (DLCs), and TR303 compatible equipment.
 - b. **Loop Concentrator/Multiplexer**—SLC or similar equipment configuration at which individual subscriber traffic is multiplexed/demultiplexed and connected to loop distribution for termination to the customer's premises.
 - c. **Loop Feeder**—The transmission path between the SAI and the ILEC wire center, broken into segments if possible from the SLC pedestal or SAI to the RSM, multiplexer and wire center, respectively. Connection shall be to the switch side of the Central Office Termination (COT). The COT is commonly the last point of interface before the switch and often is used to control TR303 compatible remote terminal equipment.
 2. Each component of the NAC should be offered at several levels of capacity:

- a. **Basic Level** — A transmission path which provides less than 1.544 Mbps digital capability.
- (1) **Analog Voice.** This includes 300 to 3,000 Hz analog voice service, which is the basic channel for most voice grade services, such as basic residence and business main line service, PBX trunks and Centrex type access lines.
 - (2) **ISDN** — Integrated Services Digital Network is a transmission path with end-to-end digital connectivity for simultaneous transmission of voice and/or data over multiple multiplexed communications channels and employing transmission and out-of-band signaling protocols that conform to internationally-defined standards. Through multiplexing, an ISDN access line can offer the user multiple circuit-switched and packet-switched channels accessible through a single terminal that combines voice and data features. Two ISDN user access facilities are presently defined. One is the "basic rate", a three-channel, 144 Kbps access line for connection of individual ISDN desktop terminals. The other access facility is the "primary rate", for connection of a PBX or other multiline communications system. The North American primary rate provides for 24 channels on a 1.544 Mbps digital circuit; the European primary rate provides for 32 channels on a 2.048 Mbps digital circuit.
- b. **DS-1 Level** — A transmission path which has 1.544 Mbps digital capability. A high capacity wide band transmission facility that operates in a full duplex, time division (digital) multiplexing mode. This is the first level (primary rate) within the "T" Carrier system. DS-1 service provides transmission of 193 bit frames at a rate of 8,000 frames per second to yield 1.544 Mbps. A DS-1 provides the equivalent of 24 voice grade channels with associated signaling, twenty-four 56 Kbps digital channels when in band signaling is provided or twenty-four 64 Kbps channels with the selection of the Clear Channel signaling option.
- c. **DS-3 Level** — A transmission path which has 45 Mbps digital capability. A high capacity broad band transmission facility that operates in a full duplex, time division (digital) multiplexing mode. This is the third level within the "T" Carrier system. A DS-3 provides the equivalent of 28 DS-1s or 672 basic channels.

- B. Network Access Channel Connection** — The interface between the Basic, DS-1 and/or DS-3 network access channel and the appropriate LEC central office switching equipment, subsequent dedicated transport equipment (dedicated interoffice circuits) or subsequent channel equipment (dedicated intra-office circuits).

1. Switched Channel Connection

- a. Basic Level** — An interface for channels that provide less than 1.544 Mbps digital capability. This includes the interface for 300 to 3,000 Hz analog voice service which is the basic interface for most voice grade services such as basic residence and business main line service, PBX trunks, Centrex type access lines and voice grade dedicated transport service. In addition, this category includes the interface for four frequency bandwidths provided for audio channels in the basic level channel connection category: 200 to 2,500 Hz, 100 to 5,000 Hz, 50 to 8,000 Hz, and 50 to 15,000 Hz. Also included in this basic level channel connection category is low speed data transmission (signal rate up to 150 baud) and digital data transmission at speeds of 2.4, 4.8, 9.6, 56 Kbps and all other speeds below the T-1 rate of 1.544 Mbps. This interface is for narrow band service. The basic level network access channel connection is provided with standard signaling and transmission level capabilities suitable for a wide variety of network services and applications. Other non-standard capabilities (*i.e.*, coin service, high voltage protections, etc.) are available through the addition of one of the optional channel performance and other features and functions network components.
- b. DS-1 Level** — An interface for 1.544 Mbps digital transmission channels. This interface connects high capability wide band transmission channels that operate in a full duplex, time division (digital) multiplexing mode. The DS-1 channel, for which the interface is provided, provides the equivalent of 24 voice grade channels with associated signaling, twenty-four 56 Kbps digital channels when in-band signaling is provided or twenty-four 64 Kbps channels when the clear channel option is selected.

2. Dedicated Channel Connection

- a. Basic Level** — See I.B.1.a., above.
- b. DS-1 Level** — See I.B.1.b., above.

- c. **DS-3 Level**— An interface for 45 Mbps digital transmission channels. This interface connects broadband transmission channels that operate in a full duplex, time division (digital) multiplexing mode. A DS-3, for which the interface is provided, offers the equivalent of 28 DS-1s or 672 basic channels.

C. **Channel Performance and Other Features and Functions**— optional channel functions that may be added to provide characteristics not included with standard capabilities of the basic network access channel and channel connection. These functions are associated with transmission or service type (*i.e.*, analog digital, coin, ISDN, etc.), bandwidth conversion, signaling, multiplexing, amplification, and channel performance. The basic level network access channel connection is provided with standard signaling and transmission level capabilities suitable for a wide variety of network services and applications. Other non-standard capabilities (*i.e.*, coin service, high voltage power protection, etc.) are available through the addition of one of the optional channel performance network components.

II. **SWITCHING AND SWITCH FUNCTIONS**— provides for connectivity between two or more NAC Connections or between a NAC Connection and other network components or functionalities. This function is accomplished through the establishment of a temporary transmission path between two network access channel connections in the same switching office or between a network access channel connection and the interoffice facilities that interconnect switching offices, or between a network access channel connection and other network components or functionalities. The switching network cost component covers the first point of switching for a customer, whether that switching is accomplished by an end office switch or by a tandem switch. Switching offices, which are generally co-resident with a serving wire center, also provide for a variety of features that enhance network use.

A. **Switching**

1. **Intra-office Switching**— Switching between two or more network access channel connections served from the same central office.
2. **Interoffice Switching**— Switching between network access channels and either incoming or outgoing switched transport facilities connected to different central offices.
 - a. Outgoing
 - b. Incoming

3. **Tandem Switching** — Switching between and among dedicated and switched transport facilities, including end office trunks, inter-tandem trunks, and IXC access trunks.

B. Features — This is the category of switching functionality that provides for call processing beyond the simple connection of a network access channel to a network access channel, a network access channel to outgoing transport facilities, or incoming transport facilities to a network access channel. Switch features are associated with items such as Custom Calling, Centrex, CLASS and ISDN. Most network switching features are found in end offices. Tandems, while having to support most features, do not themselves typically effectuate a feature.

III. DEDICATED OR SWITCHED TRANSPORT — accommodates dedicated or shared transport between two or more switching offices and/or serving wire centers of a LEC. Transport between switching offices of a LEC and other carriers is designated as a network access channel. Transport is accomplished through establishment of dedicated (full period) or switched (time sensitive or common) transmission paths between the originating and terminating switching offices or serving wire centers of a LEC.

A. Dedicated Transport — A full period, bandwidth specific (DS-0, DS-1, DS-3) interoffice transmission path between switching offices and/or serving wire centers of a LEC.

1. Termination — An interface that provides for the transmission conversion (*e.g.*, multiplexing) required between the channel connection and the dedicated transport facilities.

- a. **DS-0 Level**
- b. **DS-1 Level**
- c. **DS-3 Level**
- d. **Optical Carrier Level.** In fiber-optic SONET networks, Optical Carrier specifies the optical form of the SONET communications channel when it is being transmitted through an optic fiber as a lightwave signal. OC-1 specifies the basic 51.84 Mbps SONET communications channel, while OC-3/12/96/192 specify the optical form of the SONET channel at various multiplexing levels. Each OC level shall be made available hereunder.

2. Facility — The full period, bandwidth-specific (DS-0, DS-1, DS-3) interoffice transmission path established between two points of dedicated transport termination.

- a. **DS-0 Level**
- b. **DS-1 Level**
- c. **DS-3 Level**
- d. **Optical Carrier Level**

B. Switched or "Common" Transport — The temporary time-sensitive interoffice transmission paths between the switching office and/or serving wire centers of the LEC.

- 1. **Termination** — An interface that provides for the transmission conversion (*e.g.*, multiplexing) required between the switching function and switched transport facilities.
- 2. **Facility** — The temporary interoffice transmission path established between two points of switched transport termination, utilizing the economies of shared wide band digital fiber optic carrier systems.
- 3. **Tandem Switching**

IV. SIGNALING AND DATABASES

A. Signaling System 7 (SS7) — is a specific network control system comprising protocols for the interpretation and use of a repertoire of network control and operation signals and the associated hardware and software needed for transmission, reception and interpretation of the signals. Signaling System 7, as the latest-generation network signaling system, accommodates enhanced 800 Service, wide-area Centrex services, virtual private networks, and other types of advanced telecommunications services. Signaling System 7 also conforms to the international signaling protocols established by the CCITT for Integrated Services Digital Networks (ISDN).

- 1. **Signaling Links** — Transmission facilities in a signaling network which carry all out-of-band signaling traffic between the End Office and Signal Transfer Point, the Tandem Switch and Signal Transfer Point, the Signal Transfer Point and Signal Control Point, and Signal Transfer Point and Signal Transfer Point.
- 2. **Signal Transfer Point (STP)** — Facility which provides the function of connection Signal Links in order to transfer appropriate signals from and between the various elements of the network *i.e.*, switch, advanced intelligent network (AIN) triggers, Links and SCP.